

MODIS Technical Team Meeting
Thursday, October 10, 2002
Building 33, Room E125

Vince Salomonson chaired the meeting. In attendance were Barbara Conboy, Skip Reber, Bill Barnes, Shaida Johnston, Ed Masuoka, Eric Vermote, Bruce Guenther, Chris Justice, Wayne Esaias, Steve Kempler, and Jack Xiong, with Yolanda Harvey taking the minutes.

1.0 Upcoming Events

- 34th COSPAR Scientific Assembly, October 10-19, 2002, Houston, TX (abstract deadline past)
<http://www.copernicus.org/COSPAR/COSPAR.html>
- MODIS Outreach Workshop on Land Surface Radiation and Snow and Ice Products, October 21-22, 2002, Boston, MA
Logistics: <http://geography.bu.edu/brdf/MODLANDworkshop.html>
Agendas: <http://geography.bu.edu/brdf/agendaworkshop.html> and
<http://geography.bu.edu/brdf/LPVagendaworkshop.html>
- Pecora 15 & Land Satellite Information IV Symposium, November 12-15, 2002, Denver, CO (abstract deadline past)
<http://www.asprs.org/Pecora-ISPRS-2002/program.html>
- EOS Investigator Working Group Meeting, November 18-20, Ellicott City, MD
http://eospsso.gsfc.nasa.gov/eos_homepage/iwg2002.html

2.0 Meeting Minutes

2.1 General Discussion

Salomonson reported that the next two MTT meetings will be cancelled because he will be traveling.

Salomonson asked how many people are committed to attending the IWG. Esaias said that Oceans will have three presentations. Salomonson said that Jim Closs wants presentations that focus on data from more than one instrument. Esaias said that he thinks that they want to see combined Terra and Aqua MODIS presentations, but he isn't sure that the Oceans team is ready to give those sorts of presentations yet. Salomonson asked Justice if he has talked to Closs yet, and Justice said that he talked to him about albedo and tree cover, but Closs was more interest in a fire presentation for the next time. Justice said that they can talk about albedo with MODIS and MISR data. Salomonson said that Hall has been invited, and is working with people at Columbia on snow and modeling.

Masuoka reported that a suggestion was made to create an aluminum display frame for the MODIS model, and that eventually they would like to put the display in the foyer of GSFC's Building 32. Barnes asked about putting it in the visitor's center, and Salomonson said that though that may happen eventually, it won't happen now because the center is closed.

Reber reported that the window for submitting proposals for the EMD closed on October 7. Reber asked Salomonson about the Land data (generated at UMD) which is apparently not generally available, but shows up in the availability/status matrices from Salomonson and Mike King.

Salomonson said that MODIS is a good instrument, we have good data products, we are processing a lot of data, and we need to make sure people can get that data. He asked how we can improve access for the user community, and said that the ECS feels that it is doing as much as it can do. They are working with ECHO and the data pools, but they can't go much beyond that. If that is the situation, he wondered what we can do. People need to be able to get and use the data, and we have to provide products they want and can use. The Level 3 products are good, but we can do better. He wondered if we should think about the problem as one of maintenance. Johnston said that there is also another element beyond the ordering interface – the product set. She pointed out that most products could be better packaged, perhaps using subsetting, subsampling, geographic packaging, etc. This has been done before to some extent, but we need to think about it more. This is more our responsibility than ECS'.

Masuoka said that maybe we ought think about how to package suites of products, not just individual products. As we come up on Collection 5, we could rethink tiles: high-level products could be on one plane instead of in pieces. We have some opportunity to think about grid changes, from tiles to global maps. Salomonson emphasized that we have to think about what the users want. We can link between the browse, MODIS, and ECS pages to shop for data very easily. Justice said that team leader's proposals could consider this, but individual proposals would be fragmented. Salomonson asked if it would be worthwhile to have the disciplines work with their respective DAACs on this, and Esaias said that that idea would be well-received by HQ as part of the recompetes. However, we have to consider priorities, and remember that we have two sensors now. Reber noted that data access, visibility, and packaging are very important for our users. Kempler said that we need to address data usability from a science perspective. Vermote pointed out that we also need to think about tools, not just the data. Salomonson said that at an upcoming George Mason workshop he is planning to open the dialogue with users by asking for practical opinions and suggestions. Esaias said that he should point out how much farther we've come than was expected five years ago. Masuoka suggested that if we need to add new products to accommodate users we should ask the DAAC to look at what products are being ordered now since we'd have to give something up. We might consider dropping products that are seldom ordered from the archive and replacing them with products in new easier to use formats.

2.2 Instrument Status

2.2.1 Aqua MODIS

Xiong reported that they have found two days (277 and 278) where a lot of the earth-view L1B data (pixels) transmitted to MCST are missing. He reported that the gaps are in the science data in the granules themselves. Xiong said that the data after those two days are normal with nothing missing. He said that the problem is with the software. Johnston asked if only EMOSS can see the spacecraft data, and Xiong said yes. Xiong showed slides that pointed out where and how much data are missing, highlighting that 0.14% of the data are missing. He said that the data are missing all over the orbits, and all are in Aqua data. They learned from Terra that when the BB holds at a constant

temperature, some data can be lost, but they found that that is not the case now. Salomonson asked if this is the GBAD data problem, and Johnston said that this is over and above that problem. Kempler said that they have some information (details from Kempler), and that EDOS is not handling redundant data well. Barnes said that the errors may correspond to single event upsets, and they have people checking that scenario. Johnston said that the procedure for playback on the spacecraft got changed to avoid dropouts. Kempler said that it sounds like an EDOS problem. Johnston said that EDOS says that it has something to do with playback. Have to change procedure. Barnes said that we should check to see if our data loss days correspond to the days when they were doing their playback testing. Salomonson asked if it is definitely not an instrument problem, and Barnes said that they can't be sure, but they think that it is not an instrument problem.

2.2.2 Terra MODIS

Barnes showed more of Kurt Thome's results (on slides). He reported that Thome's results are 3% lower on average than L1B data. The Aqua data are a few percent higher than the L1B, and the total difference between Terra and Aqua MODIS data could be around 5%. Barnes asked Oceans and MCST to look for differences in their data as well.

Barnes reported that he met with Chad Salo this morning about the lost commands. He said that they put in a patch Tuesday morning (October 8th) that rearranges the order of commands. They haven't lost any commands since September, so they the problem may have resolved itself, but they have the patch in place just in case.

Esaias asked for the latest on the calibration maneuver, and Salomonson said that they are making their case to Quality Control, who will hopefully approve. Esaias said that if it's going to happen in coordination with SeaWiFS, they may have to figure out how to continue the mission (since it has reached the end of its contract).

2.3 DAAC

Kempler reported that there are 50 hours of data gaps for Aqua, and 12 for Terra, and that the DAAC has reordered the data. They are upgrading the Solaris operating system for security reasons, and they are almost done. Gary Alcott is working on the GBAD problem. Salomonson asked if EMOSS is trying to figure out the problem out as well, and Kempler said yes. Salomonson reported that Claire Parkinson has made an inquiry to EMOSS as well.

2.4 MODAPS

Masuoka reported that he got the LUT change for PGO6 (Atmospheres), the PGE is back with the developer for a patch. It is not a huge priority, but they want to get Atmospheres done this so a Science Test can be run with all the Atmosphere PGEs. The L2g PGEs all have passed tests for SIN grid change, and they expect to get all work done on the PGEs by Oct 26th. Masuoka said that they still need some PGEs from Huete, Running and Wan, which are important for the third Land test. He emphasized that they are getting close to the deadline. Masuoka said that he would like to the Rad_cor LUT for Oceans processing by Friday (10/11). Esaias said that Miami is finishing up with the LUT and will send it in a couple of days.

Masuoka asked Justice if he's talked to Running, and Justice said no. Masuoka said that they need to finish the dailies and 8-days, and that they are coming close to the end of the window. If they have problems, it will cause the schedule to slip. Masuoka said that the current schedule drivers will be getting Atmospheres ready and Oceans reprocessing finished. Salomonson asked when Collection 4 will be finished, and Masuoka said that the schedule will only be affected by a day or two, but he's not sure of the end date until the PGEs come in. For the Land reprocessing the finish date depends on the rate at which EDC and NSIDC ingest Land products into their archives and the rate at which the GES DAAC can produce the Level 1 products and distribute them to MODAPS. In particular, EDC DAAC ingest enhancements which are being installed this month are critical for supporting a reprocessing rate of 4X. Salomonson asked if an Aqua reprocessing at 1X can be supported in parallel with the 4X reprocessing for Terra. Masuoka replied that no there was a total reprocessing capability of 4X for both instruments (2X for Aqua and 2X for Terra) planned in the EOSDIS. While the MODIS Science Team has requested a 4X reprocessing capacity for each instrument at past SWAMP Working Group on Data (SWGd) meetings and increases in archive storage to allow all products to be stored, only the latter has been acquired. Justice noted that at the beginning of the project, we never thought we'd be able to reprocess, but despite the challenge, we have done so. We are able to do a major reprocessing every two years, which is a major achievement. Barnes noted that having the two instruments will result in about 40-50 terabytes of data every year.

Masuoka reported that he approved the Configuration Change Request (CCR) that modified the Functional Performance Requirements Specifications (FPRS) that increase storage at the DAACs for MODIS products. Masuoka said that the EDC DAAC and Vanessa Griffin, who is responsible for DAAC operations, voted no to the changes that increased MODIS archive volumes citing the need for more manpower to support changes in product volume. He will update the Tech Team on the progress of this CCR. He noted that the FPRS has rolling six-month archives for some MODIS products and said he will send around the details on the products that will be recycled after 6 months. Skip Reber pointed out that the rolling archive doesn't take effect until archives at the DAACs fill up.

2.5 Land

Vermote reported that he is still looking at one area (Scandinavia) for the Snow product on the MMDS CD. He has done revisions and did his own inspection, and thinks that it looks better for the web now. He said that he will be done soon, probably next week, with the correct snow products. Salomonson said that everyone ought to look at the CD.

Justice reported that he went to the SAFARI workshop this week, and that there was an enormous amount of MODIS material presented on data validation and use. He said that he was amazed at how people are using MODIS nationally and internationally, and would like this to be brought to HQ's attention. There is an impressive array of work being done. Salomonson said that he would like to see more public feedback to Ghassem and HQ.

Salomonson asked Justice if he is aware of the problem with NDVI, and Justice said yes, he's spoken to Alfredo Huete. Salomonson said that it will be fixed in Collection 5.

2.6 Oceans

Esaias reported that he's talked with people about the IWGs, and there are plans for a workshop January 2-3 in New Hampshire, and one coming up on the West Coast in the early spring. He also spoke to Chuck Trees about the combined Ocean Color and MODIS meeting – it won't work, so Trees' meeting will be in March 2003. Salomonson asked why, and Esaias said that there's just not enough time to plan both together, there may be too many people there at once, and they want four full days of meetings.

3.0 Action Items

3.1 New Action Items

None.

3.2 Old Action Items

3.2.1 Technical team to discuss further the issue of predicted ephemeris data and how to improve it.

Status: Closed.

Ed Masuoka and Robert Wolfe plan to meet with the Terra Flight Operations Team to see if they can run definitive ephemeris 2-4 times per day. The context for this issue is to provide better geolocation information for things like fire front tracking and similar issues.

3.2.2 Science Team to update the Terra Data Products Handbook and submit edits and new gray scale imagery to Barbara Conboy within a few weeks.

Status: Open.

MODIS has submitted all initial updates for the revised Terra Data Products Handbook. One final review with revisions incorporated may be requested for some products before the document goes to print. The handbook is expected to go to print by the end of October.

3.2.3 Johnston to take a lead on developing a plan/process for the DAAC getting backup data from SDST.

Status: Open.